UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

ECOLOGICAL SITE DESCRIPTION

ECOLOGICAL SITE CHARACTERISTICS

Site Type: Rangeland

Site ID: R039XB019NM

Site Name: Shallow Savannah

Precipitation or Climate Zone: 14 to 18 inches

Phase:

PHYSIOGRAPHIC FEATURES

Narrative:

This site occurs on undulating to moderately rolling topography and is typically associated with steeper hills having much exposed bedrock. Slopes range from 3 percent to 15 percent but average less than 10 percent. Elevations range upward from about 7,000 feet above sea level.

Land Form:

1. Hillside
2. Mountainside
3.

Aspect:

1. N/A
2.
3.

	Minimum	Maximum
Elevation (feet)	7,000	8,700
Slope (percent)	3	15
Water Table Depth (inches)	N/A	N/A

Flooding:	**Minimum**	**Maximum**
Frequency	N/A	N/A
Duration	N/A	N/A

Ponding:	**Minimum**	**Maximum**
Depth (inches)	N/A	N/A
Frequency	N/A	N/A
Duration	N/A	N/A

Runoff Class:

Negligible to high.

CLIMATIC FEATURES

Narrative:

Average annual precipitation varies from approximately 14 to 18 inches, depending upon where the site is found. Year to year fluctuations in precipitation is common. Half or more of the precipitation occurring during the late fall through early spring period, often in the form of snow. The balance of the precipitation falls typically from mid June through September and is characterized by short-duration, high intensity thunderstorms.

The average frost-free season is about 103 days but is highly variable from location to location. The last killing frost in the spring occurs about June 1st, and the first killing frost in the fall normally occurs by October 1st. Lighter frosts may occur anytime in June and again in late August or early September. Average annual air temperature is about 50 degrees F. Monthly average air temperatures vary from 30 degrees F in January to just under 70 degrees F in August.

Both the air temperature and moisture regimes of this climate favor cool-season vegetation.

Climate data was obtained from http://www.wrcc.sage.dri.edu/summary/climsmnm.html web site using 50% probability for freeze-free and frost-free seasons using 28.5 degrees F and 32.5 degrees F respectively.

	Minimum	Maximum
Frost-free period (days):	81	112
Freeze-free period (days):	105	133
Mean annual precipitation (inches):	14	18

Monthly moisture (inches) and temperature (^{0}F) distribution:

	Precip. Min.	Precip. Max.	Temp. Min.	Temp. Max.
January	.79	1.00	11.1	48.2
February	.74	.81	15.0	51.6
March	.70	.85	18.3	58.3
April	.45	.65	22.3	66.4
May	.50	.56	28.5	74.5
June	.60	.74	36.3	83.6
July	2.37	2.99	46.7	84.3
August	3.15	3.29	45.5	81.1
September	1.81	2.01	37.8	77.8
October	1.15	1.57	26.5	68.8
November	.48	.84	16.3	57.3
December	1.03	1.21	11.2	49.8

Climate Stations:

				Period		
Station ID	290818	Location	Beaverhead Ranger Station, NM	From: 01/01/39	To:	12/31/00
Station ID	295273	Location	Luna Ranger Station, NM	From: 01/01/14	To:	12/31/00
Station ID	294375	Location	Jewett Ranger Station, NM	From: 01/01/33	To:	09/30/67

INFLUENCING WATER FEATURES

Narrative:

This site is not influenced by water from a wetland or stream.

Wetland description:

System	Subsystem	Class
N/A		

If Riverine Wetland System enter Rosgen Stream Type:
N/A

REPRESENTATIVE SOIL FEATURES

Narrative:

Soils are very shallow to shallow over bedrock that is typically volcanic tuff. Surfaces are gravelly and range from sandy loams to clay loams in texture. They are normally light colored and gritty to the feel. Subsoils range from gravelly sand to cobbly clay loams. Permeability is rapid to moderately slow, runoff is medium to rapid, and available water-holding capacity is low to very low.

Parent Material Kind: Alluvium
Parent Material Origin: Mixed

Surface Texture:

1. Sandy loam
2. Loam
3. Clay loam

Surface Texture Modifier:

1. Gravel
2. Cobble
3.

Subsurface Texture Group: Sandy

Surface Fragments <=3" (% Cover): 15 to 35

Surface Fragments >3" (% Cover): 15 to 35

Subsurface Fragments <=3" (%Volume): 15 to 35

Subsurface Fragments >=3" (%Volume): 15 to 35

	Minimum	Maximum
Drainage Class:	Well	Well
Permeability Class:	Moderately slow	Rapid
Depth (inches):	5	60
Electrical Conductivity (mmhos/cm):	N/A	N/A
Sodium Absorption Ratio:	N/A	N/A
Soil Reaction (1:1 Water):	N/A	N/A
Soil Reaction (0.1M CaCl2):	N/A	N/A
Available Water Capacity (inches):	0	6
Calcium Carbonate Equivalent (percent):	N/A	N/A

PLANT COMMUNITIES

Ecological Dynamics of the Site:

Plant Communities and Transitional Pathways (diagram)

Plant Community Name: Historic Climax Plant Community

Plant Community Sequence Number: 1 **Narrative Label**: HCPC

Plant Community Narrative: Historic Climax Plant Community
This site is a grassland mixed with shrubs and overstoried by very thin or scattered stands of ponderosa pine, pinyon pine, and alligator juniper. Shrubs are typically hairy mountainmahogany, skunkbush sumac, and oak spp. Forbs include Freemont's goosefoot, wildbuckwheat, green sagewort, and trailing fleabane. Tree canopy generally does not exceed 15 percent and average about 8 percent.

Canopy Cover:	
Trees, shrubs and half-shrubs	8 to 15 %
Ground Cover (Aveage Percent of Surface Area).	
Grasses & Forbs	23
Bare ground	42
Surface gravel	15
Surface cobble and stone	10
Litter (percent)	10
Litter (average depth in cm.)	2

Plant Community Annual Production (by plant type):

Annual Production (lbs/ac)

Plant Type	Low	RV	High
Grass/Grasslike	469	610	750
Forb	44	57	70
Tree/Shrub/Vine	113	146	180
Lichen			
Moss			
Microbiotic Crusts			
Total	625	813	1,000

Plant Community Composition and Group Annual Production:

Plant Type - Grass/Grasslike

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
1	MUMO MUPA2	Mountain Muhly New Mexico Muhly	81 – 163	81 – 163
2	POFE FEAR2	Muttongrass Arizona Fescue	81 – 122	81 – 122
3	BOGR2	Blue Grama	41 – 122	41 – 122
4	ELEL5 KOMA	Bottlebrush Squirreltail Prairie Junegrass	24 – 65	24 – 65
5	PIFI BLTR BOCU	Pinyon Ricegrass Pine Dropseed Sideoats Grama	41 – 81	41 – 81
6	SCSC	Little Bluestem	41 – 81	41 – 81
7	MUWR	Spike Muhly	24 – 41	24 – 41
8	2GRAM	Other Grasses	41 – 81	41 – 81

Plant Type - Forb

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
9	2FP	Perennial Forbs	24 – 41	24 – 41
10	2FA	Annual Forbs	8 – 24	8 - 24

Plant Type – Tree/Shrub/Vine

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
11	PIPO	Ponderosa Pine	24 – 65	24 – 65
12	PIED JUDE2	Pinyon Pine Alligator Juniper	41 – 81	41 – 81
13	QUERC CEMOP RHTR	Oak spp. Hairy Mountainmahogany Skunkbush Sumac	41 – 81	41 – 81
14	2SD	Other Shrubs	8 – 24	8 - 24

Plant Type - Lichen

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Type - Moss

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Type - Microbiotic Crusts

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Growth Curves

Growth Curve ID **1309NM**

Growth Curve Name: **HCPC**

Growth Curve Description: **Grassland mixed with shrubs and overstoried by scattered stands of trees with a minor forb component.**

Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
0	0	3	5	10	10	25	30	12	5	0	0

ECOLOGICAL SITE INTERPRETATIONS

Animal Community:

Habitat for Wildlife:

This site provides habitats which support a resident animal community that is characterized by elk, deer, gray fox, eastern cottontail, cliff chipmunk, Abert's squirrel, white-throated woodrat, porcupine, red-tailed hawk, screech owl, harlequin quail, mourning dove, red-shafted flicker, Cassin's kingbird, Stellar's jay, chipping sparrow, southern plateau fence lizard, short-horned lizard, New Mexico garter snake and prairie rattlesnake.

Merriam's turkey range into the site and band-tailed pigeon may be present during years of high pinyon nut or acorn mast production. Purple martin, western bluebird and red-faced warbler nest, and gray-headed junco winters here. Golden eagle and common raven hunt over the site.

Hydrology Functions:

The runoff curve numbers are determined by field investigations using hydrologic cover conditions and hydrologic soil groups.

Hydrologic Interpretations	
Soil Series	**Hydrologic Group**
Ustochrepts – Rock outcrop complex	?

Recreational Uses:

This site is well suited to hiking, horseback riding, picnicking, camping, nature observation and photography. It has very good hunting potential for deer, fair to good for elk, and fair for wild turkey. The mountainous setting within which the site occurs enhances natural beauty.

Wood Products:

Wood products on this site are limited generally to firewood, fence posts, and occasionally a few Christmas trees. The site should not be considered a major source for wood products on a sustained basis.

Other Products:

Grazing:

Approximately 75 percent of the vegetative production on this site come from plants that produce forage for grazing or browsing animals, including domestic livestock. Grazing distribution need not be a serious problem as long as waterings are adequately located. Continuous grazing use in the same season, year after year, is not recommended, as a decline in range condition may occur. Heavy continuous use will almost certainly result in such a decline and cool-season grasses such as muttongrass and Arizona fescue are usually the first to decrease. Blue grama and the less palatable, half-shrubs and shrubs will increase, at least initially, and production will drop. To best maintain a healthy balance of vigorous plants on the site, a system of deferred grazing that varies the season of use from year to year may be needed. Overstocking must be avoided no matter what the grazing system.

In addition to domestic livestock, deer, elk, small mammals, and birds also use the site.

Other Information:

Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month

Similarity Index	**Ac/AUM**
100 - 76	3.0 – 4.0
75 – 51	3.7 – 5.5
50 – 26	5.2 – 9.5
25 – 0	9.5+

Plant Part	Code	Species Preference	Code
Stems	**S**	**None Selected**	**NS**
Leaves	**L**	**Preferred**	**P**
Flowers	**F**	**Desirable**	**D**
Fruits/Seeds	**F/S**	**Undesirable**	**U**
Entire Plant	**EP**	**Not Consumed**	**NC**
Underground Parts	**UP**	**Emergency**	**E**
		Toxic	**T**

Plant Preference by Animal Kind:

Animal Kind: Livestock
Animal Type: Cattle

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Mountain Muhly	Muhlenbergia montana	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Muttongrass	Poa fendleriana	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Arizona Fescue	Festuca arizonica	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Bottlebrush Squirreltail	Elymus elymoides	EP	U	U	D	D	D	U	U	U	D	D	D	U
Prairie Junegrass	Koeleria macrantha	EP	D	D	D	D	D	D	D	D	D	D	D	D
Pinyon Ricegrass	Piptochaetium fimbriatum	EP	P	P	P	P	P	P	P	P	P	P	P	P
Pine Dropseed	Blepharoneuron tricholepis	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Sideoats Grama	Bouteloua curtipendula	EP	P	P	P	P	P	P	P	P	P	P	P	P
Little Bluestem	Schizachyrium scoparium	EP	D	D	D	P	P	P	P	D	D	D	D	D
Spike Muhly	Muhlenbergia wrightii	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Fringed Sagewort	Artemisia frigida	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Hairy Mountainmahogany	Cercocarpus montanus	L/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S

Animal Kind: Livestock
Animal Type: Horses

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Mountain Muhly	Muhlenbergia montana	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Muttongrass	Poa fendleriana	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Arizona Fescue	Festuca arizonica	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Bottlebrush Squirreltail	Elymus elymoides	EP	U	U	D	D	D	U	U	U	D	D	D	U
Prairie Junegrass	Koeleria macrantha	EP	D	D	D	D	D	D	D	D	D	D	D	D
Pinyon Ricegrass	Piptochaetium fimbriatum	EP	P	P	P	P	P	P	P	P	P	P	P	P
Pine Dropseed	Blepharoneuron tricholepis	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Sideoats Grama	Bouteloua curtipendula	EP	P	P	P	P	P	P	P	P	P	P	P	P
Little Bluestem	Schizachyrium scoparium	EP	D	D	D	P	P	P	P	D	D	D	D	D
Spike Muhly	Muhlenbergia wrightii	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Fringed Sagewort	Artemisia frigida	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Hairy Mountainmahogany	Cercocarpus montanus	L/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S

Animal Kind: Wildlife
Animal Type: Elk

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Mountain Muhly	Muhlenbergia montana	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Muttongrass	Poa fendleriana	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Arizona Fescue	Festuca arizonica	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Bottlebrush Squirreltail	Elymus elymoides	EP	U	U	D	D	D	U	U	U	D	D	D	U
Prairie Junegrass	Koeleria macrantha	EP	D	D	D	D	D	D	D	D	D	D	D	D
Pinyon Ricegrass	Piptochaetium fimbriatum	EP	P	P	P	P	P	P	P	P	P	P	P	P
Pine Dropseed	Blepharoneuron tricholepis	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Sideoats Grama	Bouteloua curtipendula	EP	P	P	P	P	P	P	P	P	P	P	P	P
Little Bluestem	Schizachyrium scoparium	EP	D	D	D	P	P	P	P	D	D	D	D	D
Spike Muhly	Muhlenbergia wrightii	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Fringed Sagewort	Artemisia frigida	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Hairy Mountainmahogany	Cercocarpus montanus	L/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S

Animal Kind: Wildlife
Animal Type: Deer

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Perennial Forbs	Various	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Annual Forbs	Various	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Oaks	Quercus spp.	L/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Fringed Sagewort	Artemisia frigida	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Hairy Mountainmahogany	Cercocarpus montanus	L/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S

SUPPORTING INFORMATION

Associated sites:

Site Name	Site ID	Site Narrative

Similar sites:

Site Name	Site ID	Site Narrative

State Correlation:

This site has been correlated with the following sites: _____

Inventory Data References:

Data Source	# of Records	Sample Period	State	County

Type Locality:

State: **New Mexico**

County: **Catron, Grant, Sierra, Socorro**

Latitude: _____

Longitude: _____

Township: _____

Range: _____

Section: _____

Is the type locality sensitive? **Yes** ☐ **No** ☐

General Legal Description: _____

Relationship to Other Established Classifications:

Other References:

Data collection for this site was done in conjunction with the progressive soil surveys within the Arizona and New Mexico Mountains 39 Major Land Resource Area of New Mexico. This site has been mapped and correlated with soils in the following soil surveys: Socorro, Catron, Sierra and Grant.

Characteristic Soils Are:	
Ustochrepts-Rock outcrop complex (as mapped in Catron County)	
Other Soils included are:	

Site Description Approval:

Author	Date	Approval	Date
Don Sylvester		Don Sylvester	

Site Description Revision:

Author	Date	Approval	Date
Elizabeth Wright	5/17/02	George Chavez	2/12/03